

Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 091 575 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
11.04.2001 Bulletin 2001/15

(51) Int. Cl.⁷: **H04N 5/445**

(21) Application number: **00308714.5**

(22) Date of filing: **04.10.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **06.10.1999 GB 9923500**

(71) Applicant:
Pace Micro Technology PLC
Shipley, West Yorkshire BD18 3LF (GB)

(72) Inventor: **Hoath, Bill**
Altrincham, Cheshire WA15 0LA (GB)

(74) Representative: **Wood, Graham**
Bailey Walsh & Co,
5 York Place
Leeds LS1 2SD (GB)

(54) **Improvements relating to an electronic programme guide**

(57) The invention relates to an electronic programme guide display of the type generated on a display screen (102) by a broadcast data receiver connected therewith, from broadcast data received from a remote source by the receiver (103). The display comprises identification means for a number of programmes and the invention provides that a user of the guide can select a particular programme for viewing and/or to obtain further information and upon doing so an indication means is generated to provide further information to the user. The indication means can be a symbol (18; 20) visually displayed in response to the selection, an audio message to the user, unabbreviated programme information and/or the like. The indication means can be provided in an additional area (114) of the display if required.

EP 1 091 575 A1

Description

[0001] The invention to which this application relates is to an improvement to an electronic programme guide which is typically provided in relation to a television broadcast system. The electronic program guide is typically generated from data which is broadcast from a remote location to a receiver at a premises, and the guide is shown to the user of the receiver on a display screen such as a television set connected to the receiver, or in which the receiver is provided. The guide can then be referred to by the user to ascertain what programmes are on at the present or in the future, to find out details of particular programmes, order programmes through pay per view and so on.

[0002] The present invention is provided to improve the use of an electronic programme guide. It is found that as the number of available channels and programmes to watch proliferates, so the use of electronic programme guides is becoming increasingly necessary as the use of newspapers and printed listings becomes increasingly impractical. A common part of the Electronic programme guide is the generation of a grid display. The grid display comprises a time row along the top and/or bottom of the display which illustrates the time period displayed on the grid. A channel column is provided to the left and/or right of the display which indicates the channels for which the programmes are displayed. The area of the display between the rows and columns are filled portions, each of which is of a height which matches the height of a channel row and of a length which matches, with reference to the time row, the length of the particular programme. Typically each portion includes the name of the programme to be indicated to the user. This is a useful and effective way in which to illustrate to the user the largest possible number of programmes on one display, however a problem which is commonly faced is that the portions for each programme, especially if the programmes are relatively short, such as 30 minute programmes and/or the titles are relatively long, are not long enough to accommodate the title within the portion. This means that either abbreviations have to be used in the portions and/or a selected word or words are used in the portion or the letter 'i' is generated to indicate that the user has to depress the appropriate button in their remote control device to discover the title. While the use of abbreviations or selected words is the best which can currently be achieved, it is found that these often have very little meaning to the user who may not be aware of the abbreviations used or what the selected words mean.

[0003] The aim of the present invention is to provide a means whereby the user of a program can view a grid of programme details and which grid comprises a number of programme portions, and to provide an indication to the user to indicate the subject matter of the programme portions, even if the title of the programme is not or only partially provided in the programme por-

tion on the display.

[0004] In a first aspect of the invention there is provided an electronic program guide display generated on a display screen from broadcast data received from a remote source by a receiver connected to the display screen, said display comprising a series of portions, each representative of a selectable television programme, and a user, viewing the display, provided with selection means to select at least one of the portions displayed and characterised in that in response to the selection, an indication means is generated by the broadcast data receiver to indicate a feature of the programme of the selected portion to the user.

[0005] Typically the indication means is provided to indicate a feature of the subject matter of the programme.

[0006] In one embodiment the indication means is in the form of at least one symbol which is generated on screen in response to a selection. The user can view the same who can then refer to a symbol key also displayed on screen, on the selection means or otherwise provided.

[0007] In an alternative embodiment, rather than or in addition to, the generation of an on screen symbol, upon a portion being selected, other forms of indication can be generated such as the programme title or subject matter is played out via speakers connected to the receiver.

[0008] In one embodiment the data which allows the generation of the indication is transmitted along with the data for the electronic programme guide to the receiver.

[0009] In one specific embodiment, the data which is received by the receiver includes a code for at least some of the received programme data which indicates the subject matter category of the programme for which the data is provided. If that programme is selected by the user from the electronic programme guide display the receiver identifies the code, refers the same to an indication means key and generates the appropriate indication means such as a symbol on the screen. Typically the symbol which is generated is displayed adjacent to the position of the programme selected, and is representative of the subject matter to the user.

[0010] In a further aspect of the present invention there is provided an electronic program guide display generated on a display screen from broadcast data received from a remote source by a receiver connected to the display screen, said display comprising a series of portions, each representative of a selectable television programme, and a user, viewing the display, provided with selection means to select at least one of the portions displayed and characterised in that an additional area of display is provided on the display screen for the display of indication means generated by the broadcast data receiver corresponding to one or more features of the programme of the selected portion to the user.

[0011] Preferably the indication means displayed in the additional area includes unabbreviated programme information relating to the programme in the portion selected by the user.

[0012] Further preferably at least the characters of the program title in an unabbreviated form are displayed in the additional area.

[0013] Further preferably programme information such as the type of programme, the channel name, the subject matter of the programme, the actors in the programme and/or the like is also displayed in the additional area of the display screen in unabbreviated form. The information shown in the additional area can be determined by the broadcaster or it can be user determined.

[0014] Preferably the information in the said additional area changes as the user moves the cursor or "highlights" or selects different portions of the display grid, without the need for the user to select a portion, depress a request button and then wait for the generation of the further area.

[0015] Preferably at least one symbol is displayed in the additional area, the at least one symbol relating to one or more features of the programme selected.

[0016] Preferably the additional area of display is a further window adjacent to or overlapping the EPG grid.

[0017] In one embodiment the broadcaster determines the position of the further window on the EPG display. In an alternative embodiment the viewer determines the position of the further window.

[0018] Preferably the further window is an optional feature which can be selected to appear by the viewer of the EPG. Once the option has been set, the further window can appear with the EPG until the option is cancelled.

[0019] Typically the further window is displayed on the display screen without any further button selection required once a programme selection has been made.

[0020] According to a yet further aspect of the present invention there is provided an electronic programme guide display generated on a display screen from broadcast data received from a remote source by a receiver connected to the display screen, said display comprising a series of portions, each representative of a selectable television programme, and a user, viewing the display, provided with portion indicator means and characterised in that indication of at least one of the portions using the portion indicator means causes the generation on the display screen of a feature of the programme of the indicated portion to the user.

[0021] Preferably the portion indicator means is a cursor on the screen the movement of which across the display screen can be controlled by operation of the remote control device and rather than selection of a portion by depression of an appropriate button on the remote control, positioning of the cursor over a portion causes that portion to be "highlighted" and causes the generation of a feature of the programme of the indi-

cated portion in accordance with the invention.

[0022] It is envisaged that the invention of this application is of particular relevance where the grid form of display is shown and will allow the user to receive an indication of the details of a selected program which, upon the basis of the indication generated they can then decide whether they wish to pursue the selected programme and attempt to find more detailed information relating to the same or to select to watch the same.

[0023] Specific embodiments of the invention are now described with reference to the accompanying drawings wherein;

Figure 1 illustrates a conventional electronic programme guide display;

Figure 2 illustrates part of the display of Figure 1 in one embodiment of the invention;

Figure 3 illustrates part of the display of Figure 1 in another embodiment of the invention;

Figure 4 is an example of a display according to an embodiment of the invention.

[0024] Referring firstly to Figure 1 there is illustrated one typical electronic programme guide display. The display on screen comprises a time row 2 which represents the time, in the embodiment shown, from 7-10pm. There is also illustrated a channel column 4 which illustrates a number of channels for which programmes are displayed. In the area 8 there are provided a series of portions 6, each representing a programme. The position of each portion in the vertical plane with respect to the channel column 4 illustrates the particular channel on which the programme is being displayed. The start 10 of each portion with reference to the time row 2 indicates the start time of the programme and the end 12 of each portion with reference to the time row indicates the finishing time of the programme. Each portion includes a programme title. When the programme is relatively long the title can be accommodated in the portion but if the programme is relatively short and/or the title is long, either an abbreviation 14 is required to be used or first words 16 of the programme title are required to be used. This can result in the user being unable to understand the title of the programme or identify whether they want to view the programme or not.

[0025] Figure 2 illustrates part of the display of Figure 1 wherein there is illustrated that one of the portions 6' has been selected by the user by moving the cursor on the screen to come to rest on the portion 6'. In common with conventional displays the selected programme is highlighted to differentiate the same from the others and indicate the selection and it is envisaged that the user will have used the remote control cursor keys to allow the selection of the appropriate programme portion as is conventionally performed. However in this

case, and in accordance with the invention, in addition to the portion being highlighted, an indication means, in the form of a symbol 18, is displayed. In this case, as the programme is a romance, a heart symbol is displayed to the user, hence allowing them to at least identify the subject matter of the selected programme by identifying the symbol.

[0026] Figure 3 illustrates a further part of the display and in this case a portion 6" has been selected by the user and is highlighted as shown. In this case the subject matter of the selected portion is sport and so a symbol 20 in the form of a ball is displayed on screen.

[0027] The subject matter of the selected programme is identified by the receiver which receives the data for the electronic programme guide and the programmes themselves. In addition, the data includes a code which identifies the subject matter to the receiver when it is transmitted along with the other data from the remote broadcaster. Thus, when a programme is selected from the guide, the receiver will attempt to identify a subject matter code for that programme. If one has been transmitted, the code is referenced to a symbol key and the appropriate symbol for that code is identified, generated by the receiver and displayed on screen.

[0028] Referring to Figure 4, there is illustrated a display screen 102 displaying an electronic programme guide 104. The display screen is connected to a broadcast data receiver 103. Programme information is provided in portions/cells 106 of the grid display of programme guide 104.

[0029] Each horizontal line 108 relates to programmes on different channels. The cells 106 within a horizontal line are ordered in sequence according to the time of day at which they are to be shown. For example, cell 110 relates to programme information for a 3 hour long film, whereas cell 112 relates to a half hour soap opera series.

[0030] Cell 109 shows the time of day at which the programmes in cells 106 are shown.

[0031] A programme such as a cartoon which is typically shown for a short duration is provided in cell 113 which is too small for all the characters of the title to be displayed.

[0032] An additional area of display in the form of a further window 114 is displayed upon selection of a cell 106. The further window contains unabbreviated programme information relating to the selected cell.

[0033] For example, window 114 shows unabbreviated programme information relating to cell 113 of the cartoon "Tom and Jerry".

[0034] The text of the information displayed in further window 114 can be larger than the text in the EPG, thereby allowing people with poor eyesight to view the information easily.

[0035] The text in the further window 114 and the position of the window 114 on the display screen can be determined by the broadcaster or it can be determined

by the user.

[0036] It should also be appreciated that the subject matter criteria can be selected by the user and/or the broadcaster. For example, as an alternative to providing indication means to indicate subject matter, the indication means generated when a programme is selected may indicate whether the programme is acceptable for family, children or adult viewing or any other of a range of possible criteria. It should also be appreciated that it is possible that more than one symbol or combinations of the title, programme information and a symbol can be displayed when a programme is selected to illustrate to the user a range of information. It will also be appreciated that the symbol represents only one form of indication means in accordance with this invention.

[0037] It is further noted that the cell of the electronic programme guide does not require to be selected for unabbreviated programme information and/or one or more symbols to be generated, positioning of an indicator (i.e., a cursor 116) on the relevant cell without depression of a selection button may also generate programme information and/or one or more symbols.

[0038] The provision of this invention allows the user to refer to the symbol generated and/or the unabbreviated text, thereby providing the user with a clearer indication of the subject matter and nature of the programme without additional selection of alternative screens displays or the like.

Claims

1. An electronic programme guide display generated on a display screen (102) from broadcast data received from a remote source by a receiver (103) connected to the display screen, said display comprising a series of portions, each representative of a selectable television programme, and a user, viewing the display, provided with selection means to select at least one or the portions displayed and characterised in that in response to the selection, an indication means is generated by the broadcast data receiver to indicate a feature of the programme of the selected portion to the user.

2. An electronic programme guide according to claim 1 characterised in that the indication means is generated on screen (102) to visually indicate the subject matter of the programme.

3. An electronic programme guide according to claim 1 characterised in that the indication means is in the form of at least one symbol (18; 20) generated on screen in response to the user selection.

4. An electronic programme guide according to claim 3 characterised in that the at least one symbol (18; 20) generated is/are selected from a number of symbols held in a memory of the broadcast data

receiver, said selection made by the receiver with reference to the subject matter of the selected programme.

5. An electronic programme guide according to claim 3 characterised in that the selection of one or more symbols (18; 20) is made by the receiver (103) on the basis of data broadcast to the receiver for the selected programme.

6. An electronic programme guide according to claim 1 characterised in that the user, upon viewing the one or more symbols (18; 20) can refer to a symbol key to identify the information represented by the displayed symbol or symbols (18; 20).

7. An electronic programme guide according to claim 1 characterised in that upon a portion being selected, the indication means displayed is the full title of the programme represented in the portion.

8. An electronic programme guide according to claim 1 characterised in that the indication means is or includes an audio transmission to the user via speakers connected to the broadcast data receiver.

9. An electronic programme guide according to claim 1 characterised in that the particular indication means which is generated is determined by the broadcast data receiver with reference to data transmitted with the data for the electronic programme guide to the receiver (103).

10. An electronic programme guide according to claim 9 characterised in that the data which is received by the receiver (103) includes a code for at least some of the programme material transmitted and the indication means generated is with reference to the code.

11. An electronic programme guide display generated on a display screen from broadcast data received from a remote source by a receiver connected to the display screen, said display comprising a series of portions, each representative of a selectable television programme, and a user, viewing the display, provided with selection means to select at least one of the portions displayed and characterised in that an additional area of display (114) is provided on the display screen for the display of indication means generated by the broadcast data receiver corresponding to one or more features of the programme of the selected portion to the user.

12. An electronic programme guide according to claim 11 characterised in that the indication means is any of or a combination of unabbreviated pro-

gramme information or one or more symbols.

13. An electronic programme guide according to claim 11 characterised in that the additional area of display is a further window (114) on the display screen.

14. An electronic programme guide according to claim 13 characterised in that the position of the further window (114) is determined by the broadcaster.

15. An electronic programme guide according to claim 13 characterised in that the position of the further window (114) is determined by the user by user-selection of an appropriate area of the display.

16. An electronic programme guide according to claim 13 characterised in that the further window (114) is an optional feature which can be selected to appear by the user.

17. An electronic programme guide according to claim 16 characterised in that once selected the further window (114) is displayed on the screen (102) without any further button selection required.

18. An electronic programme guide according to claim 13

characterised in that the text and/or symbols in the further window (114) can be larger than the text shown in the main electronic programme guide display (104).

19. An electronic programme guide according to claim 11 characterised in that information displayed in the additional area changes as the user moves a cursor, "highlights" or selects different portions of the display, without the need for the user to select a portion, depress a request button and then wait for the generation of the additional area.

19. An electronic programme guide display generated on a display screen (102) from broadcast data received from a remote source by a receiver (103) connected to the display screen, said display comprising a series of portions, each representative of a selectable television programme, and a user, viewing the display, provided with portion indicator means and characterised in that indication of at least one of the portions using the portion indicator means causes the generation on the display screen of a feature of the programme of the indicated portion to the user.

20. An electronic programme guide according to claim 19 wherein the portion indicator means is a

cursor on the display.

5

10

15

20

25

30

35

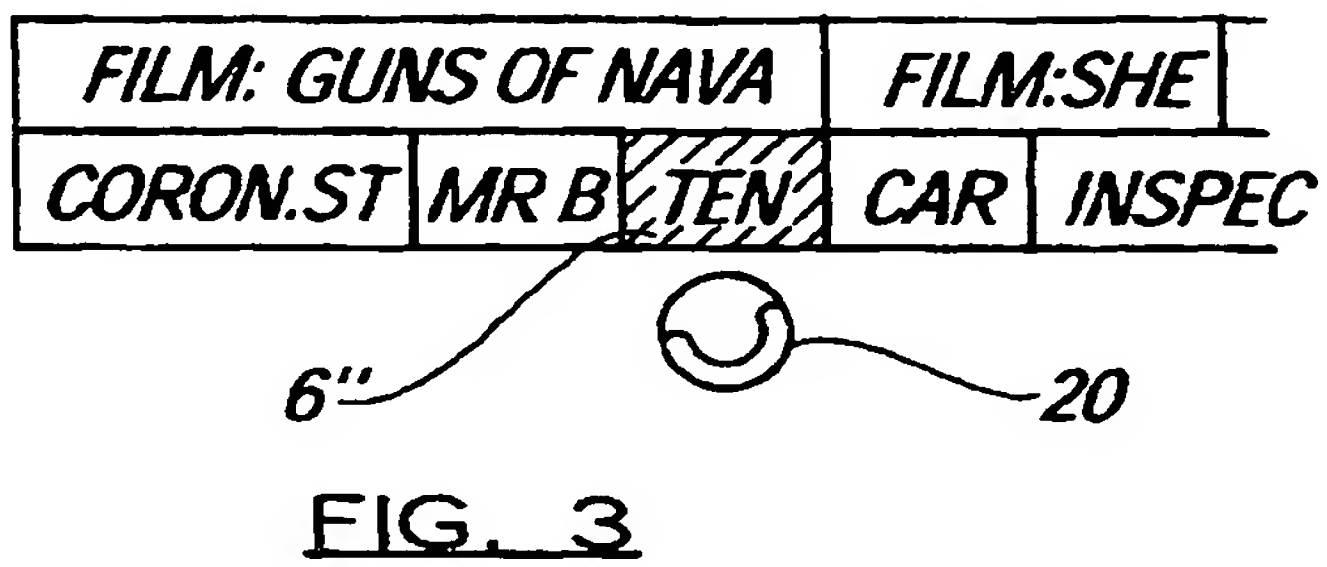
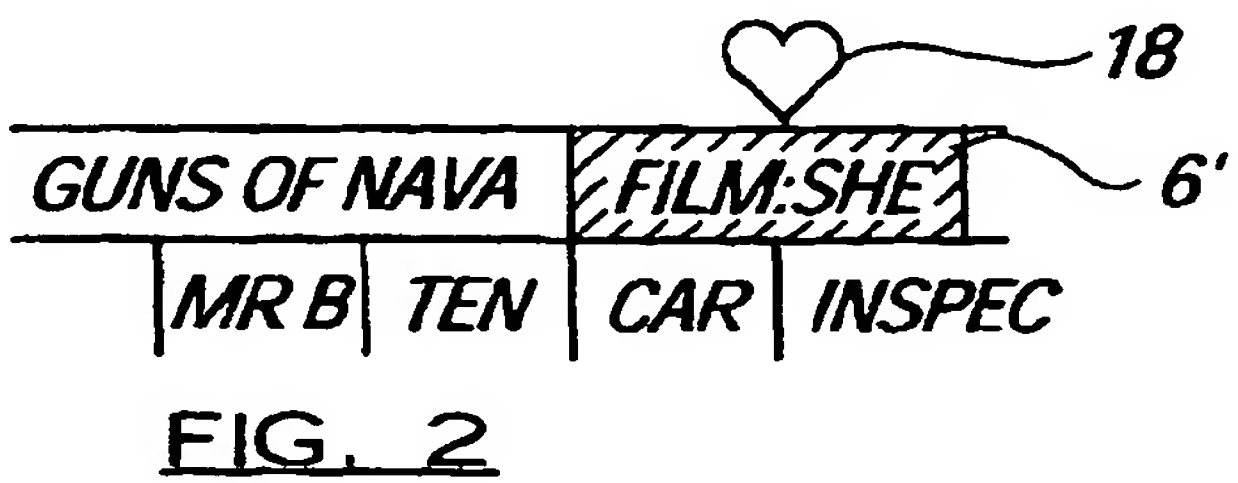
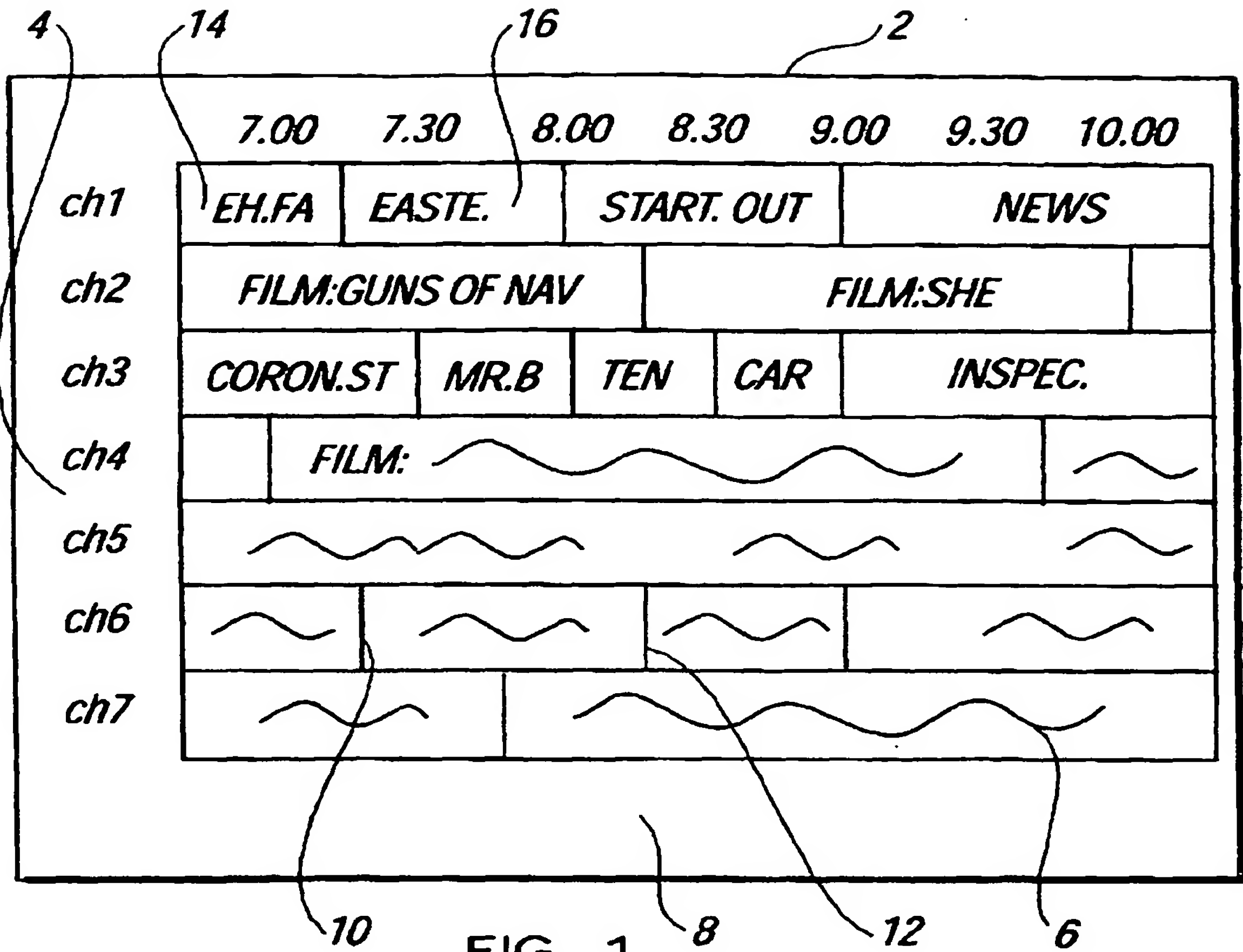
40

45

50

55

6



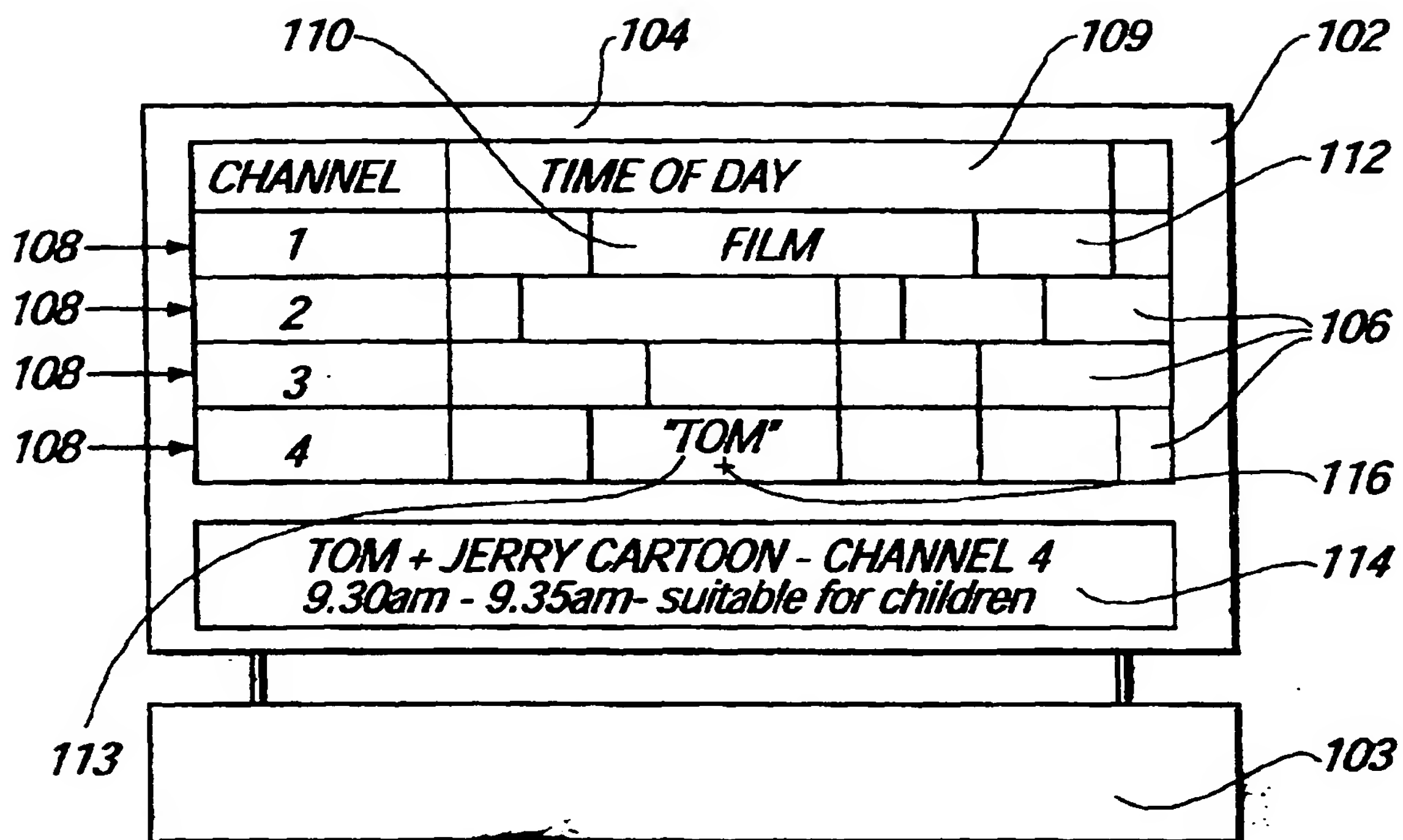


FIG. 4



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 30 8714

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 721 253 A (SONY ELECTRONICS INC) 10 July 1996 (1996-07-10) * column 8, line 22 - line 51 * ---	1,2,7, 11-13, 18,20,21	H04N5/445
X	EP 0 802 673 A (HITACHI LTD) 22 October 1997 (1997-10-22) * figure 8 * ---	1,2,7,9, 11-13, 18,20,21	
X	EP 0 774 866 A (THOMSON CONSUMER ELECTRONICS) 21 May 1997 (1997-05-21) * column 2, line 1 - line 25 * ---	1,2,7, 11-13, 18,20,21	
X	WO 97 18670 A (HYUNDAI ELECTRONICS AMERICA ;BEDARD KAREN (US)) 22 May 1997 (1997-05-22) * the whole document * ---	1,2,7,9, 20,21	
X	EP 0 790 738 A (SONY CORP) 20 August 1997 (1997-08-20) * column 14, line 22 - line 48; figures 12A-12C * ---	1,2,7, 20,21	TECHNICAL FIELDS SEARCHED (Int.Cl.7) H04N
X	WO 98 06219 A (STARSIGHT TELECAST INC) 12 February 1998 (1998-02-12) * page 21, line 2 - line 20; figures 11-14 * ---	1,2,7, 20,21	
X	EP 0 889 647 A (MATSUSHITA ELECTRIC IND CO LTD) 7 January 1999 (1999-01-07) * page 18, line 15 - line 45 * ---	1,20	
A	WO 97 50251 A (NEWS AMERICA PUBLICATIONS INC ;TELECOMMUNICATIONS OF COLORADO (US)) 31 December 1997 (1997-12-31) * page 19, line 13 - line 33 * -----	8	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 2 January 2001	Examiner Yvonnet, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 8714

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

02-01-2001

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0721253	A	10-07-1996	US 5596373 A	21-01-1997
			BR 9600018 A	21-01-1998
			CA 2166434 A	05-07-1996
			CN 1142161 A	05-02-1997

EP 0802673	A	22-10-1997	JP 9284670 A	31-10-1997
			CN 1167406 A	10-12-1997
			US 6037995 A	14-03-2000

EP 0774866	A	21-05-1997	US 5867226 A	02-02-1999
			BR 9605543 A	11-08-1998
			JP 9200638 A	31-07-1997
			SG 49982 A	15-06-1998

WO 9718670	A	22-05-1997	US 5793438 A	11-08-1998
			AU 701171 B	21-01-1999
			AU 7611996 A	05-06-1997
			CA 2237634 A	22-05-1997
			CN 1219322 A	09-06-1999
			DE 69610219 D	12-10-2000
			EP 0861558 A	02-09-1998
			JP 11505097 T	11-05-1999

EP 0790738	A	20-08-1997	JP 9284734 A	31-10-1997
			CN 1170302 A	14-01-1998
			US 6005601 A	21-12-1999

WO 9806219	A	12-02-1998	US 6151059 A	21-11-2000
			AU 3908297 A	25-02-1998
			EP 0919097 A	02-06-1999
			JP 2000500639 T	18-01-2000

EP 0889647	A	07-01-1999	JP 11025541 A	29-01-1999
			AU 725244 B	12-10-2000
			AU 7415798 A	14-01-1999

WO 9750251	A	31-12-1997	US 5822123 A	13-10-1998
			AU 708462 B	05-08-1999
			AU 3640197 A	14-01-1998
			BR 9710049 A	10-08-1999
			CA 2258228 A	31-12-1997
			EP 0908052 A	14-04-1999
			JP 2000501579 T	08-02-2000
			PL 330851 A	07-06-1999

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82